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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,589

02/15/2005

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2005_0170A

6556

52349 7590 10/02/2008
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EXAMINER

NOORISTANY, SULAIMAN

ART UNIT

PAPER NUMBER

2146

MAIL DATE

DELIVERY MODE

10/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,589	Applicant(s) TSUCHIDA ET AL.	
	Examiner SULAIMAN NOORISTANY	Art Unit 2146	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-27,29,33,38 and 39 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,4-27,29,33,38 and 39 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: ____. |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :2/15/2005, 5/12/2005, 2/28/2007.

Detailed Action

This Office Action is response to the application (10/524589) filed on 15 Feb 2005.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1, 4-27, 29, 33 and 38-39 are rejected under 112, second paragraph as being indefinite for failing to particularly point and distinctly claim the subject matter which applicant regards as the invention

In claim 1, “*when said communication unit repeats sending, using the UDP, the address notification packet on a periodical basis*” in line 20-21, is indefinite and not clear what this is in reference to. However the claim will be given a broad reasonable interpretation for the purposes of the examination as best understood.

Claims **4-27, 29, 33 and 38-39** are rejected for similar reasons as stated for claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1, 4-27, 29, 33 and 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Moyer** Patent App. No. **US 2002/0103898** in view of **Sen (Internet Draft "draft-sen-midcom-fw-nat-01. txt")** further in view of **Humpleman** Patent No. **US 6466971** further in view of **Hayes** Patent App. No. **2006/0259184**.

Regarding claims 1, 27, 29 & 38, Moyer teaches a system, method (**system & method**) and a program stored on a computer-readable storage medium (**computer**). Moyer also teaches wherein a home terminal apparatus ("**Networked Appliance**", **paragraph [0073]**) connected to a router via a home network (**Fig. 6, unit 117 -- Set Top Box (STB), which may include a RGW, Cable Modem, ADSL Modem or whatever**) and for sending/receiving packet data ("**messages**", **paragraph [0073]**) to and from a router ("**residential gateway in form of ... Network Address Translator (NAT)**", **paragraph [0073]** and **Fig. 3**) connected to an external network ("**wide area network 300**", **paragraph [0073]** and **Fig. 3**) to which a server apparatus is connected (**SIP proxy**), said home terminal apparatus:

a packet generation unit operable to generate packet data to be sent to the server apparatus via the router ("**device ... IP capable**", **paragraph [0073]**) and;

a communication unit ("**SIP user agent**", **paragraph [0015]**) operable to send/receive the packet data to and from the server apparatus via the router ("**user agent client ... sends SIP requests ... user agent server ...accepts requests ... and sends back responses**", **paragraphs [0015-0016]**),

wherein said protocol determination unit is operable to determine that said home terminal apparatus is to communicate with the server apparatus using (i) a first communication protocol, being a User Datagram Protocol (UDP) ("**UDP**", **paragraph [0054]**), when said communication unit sends address notification packet data ("**REGISTER requests**", **paragraph [0019]**) generated by said packet generation unit to the server apparatus ("**Registrar ... co-located with a Proxy**", **paragraph [0019]**), and

(ii) a second communication protocol, being a Transmission Control Protocol (TCP) ("**TCP**", **paragraph [0054]**) when said communication unit sends/receives control information ("**method called DO**", **paragraphs [0051-0053]**) to and from the server apparatus (**see bidirectional message exchange (1)-(6) in the scenario shown in Fig. 12**).

Wherein when said communication unit receives, from the server apparatus ("**user agent client ... sends SIP requests ... user agent server ...accepts requests ... and sends back responses**", **paragraphs [0015-0016]**), a notification packet indicating an occurrence of a control request to control said home terminal apparatus ("**REGISTER requests**", **paragraph [0019]**):

Said packet generation unit is operable to generate a connection request packet, which is a packet for making a connection request to establish a TCP connection to the server apparatus ("**Registrar ... co-located with a Proxy**", **paragraph [0019]**); and

Said communication unit is operable to send the connection request packet to the server apparatus using the TCP, and operable to receive, from the server

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apparatus, control packet data, which is data including the control request in the TCP ("user agent client ... sends SIP requests ... user agent server ...accepts requests ... and sends back responses", paragraphs [0015-0016]), after the connection is established between the server apparatus and said home terminal apparatus (see **bidirectional message exchange (1)-(6) in the scenario shown in Fig. 12**) using the second communication protocol which is the TCP ("TCP ", paragraph [0054]).

With respect to claim 1, Moyer does not explicitly teach a protocol determination unit operable to determine a communication protocol used between said home terminal apparatus and the server apparatus;

Said protocol determination unit is operable to determine that the connection request packet is to be communicated using the second communication protocol

Humpleman teaches that is well known to have a protocol determination unit operable to determine a communication protocol used between said home terminal apparatus and the server apparatus (**Once a HNORB&IL is located, the device and the HNORB&IL can establish a point-to-point Transmission Control protocol (TCP) or User Datagram Protocol (UDP) connection for registration, interface request and fetch, and device lookup services – Col. 17, lines 37-41**);

Said protocol determination unit is operable to determine that the connection request packet is to be communicated using the second communication protocol (**If a UDP protocol is not available, a TCP protocol can be used for high bandwidth connections such as IEEE 1394 – Col. 17, lines 41-43**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Moyer's invention by HTTP-based XMLRPC can also be utilized for device to HNORB&IL communications. In addition, there is a need for a method and a system which provides dynamic and central control and command of devices in a home network. There is also a need for such a method and system to provide the ability for a user to initially control and command a first set of devices to communicate with each other and for the first set of devices to automatically communicate with a second set of devices in the network as necessary in order to accomplish tasks without direct user control and command of the second set of devices. There is also the need for such a method and system to provide the ability for various network devices to automatically command and control other various network devices, as taught by Humpleman (Col. 2).

With respect to claim 1, Humpleman is silent in terms of "*periodically and repeatedly at a predetermined sending interval*"

Sen teaches that it is well known to send address notifications periodically and repeatedly at a predetermined sending interval ("**PING**" **keep-alive messages sent periodically to a designated server -- Page. 7, lines 3-11; Page. 11, lines 6-20).**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Moyer's invention by sending address notifications, knowing well that both SIP and NAT are standardized at the Internet Engineering Task Force (IETF), and that IETF working group "Midcom" primarily focuses on the application of the middle box architectures. By now simply enhancing said home

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terminal apparatus of Moyer by the additional SIP “PING” feature of Sen, proposes to solve this problem by allowing the Middle-box to be controlled through a generalized control interface by an application-aware entity called Midcom Agent, as taught by Sen.

With respect to claim 1, Sen is silent in terms “*when said communication unit repeats sending, using the UDP, the address notification packet on a periodical basis*”

Hayes teaches that is well known to have a system which utilize when said communication unit repeats sending, using the UDP, the address notification packet on a periodical basis **(the internet based server, home network, and/or particular appliances of home network may periodically poll one another for purposes of updating the IP numbers or other address associated with appliances of the home network. In this way a remote device (such as a wireless PDA or mobile phone) may remain at all times able to communicate commands and other control functions to the home network by checking the central registry for updated dynamic IP numbers or other device addresses – [0080])**.

It would have been obvious in one ordinary skill in the art at the time the invention was to modify Moyer’s invention by enabling convenient and secure access to control appliances in the networked control and automation environment from remote locations, an address translation and remote command routing system and method. In addition, though promising in their goals and objectives, the UPnP, HAVi, Intel Interoperability Infrastructure, etc. do not currently provide for many advanced control based features relating to networked home control and automation environments. Accordingly, it is desired to provide a system and method that functions to enable

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advanced home control features such as location based control setup and operation, network enabled legacy appliances and system integration, save and recall capabilities for appliance and media states, generic command based appliance controls, dynamic/complex macro command generation, and Internet based control capabilities from remote locations. Additional inventive features and functions will also be evident from the home appliance control system and methods hereinafter described, as taught by Hayes (Col. 1)

Independent apparatus claim 27 includes all the features of apparatus claim 1 and furthermore, some additional features, however, Moyer also discloses according to all these additional features:

the server apparatus includes a second communication unit operable to send / receive packet data ("**proxy server ... acts as both a server and a client for ... for making requests**", paragraph [0017])

the server apparatus includes a second packet generation unit operable to generate packet data to be sent to the home terminal apparatus ("**in an internet context, the proxy server receives ... sends ...**", paragraph [0017]). For this reason, the arguments stated above with regard to claim 1 are also valid for claim 27.

Independent claim 29 relates to a method, which entirely corresponds to the non-inventive subject matter of apparatus claim 27

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Independent claim 38 relates to computer software products, which entirely correspond to the non-inventive subject matter of method claim 29.

Regarding claim 5, 13 & 33 Moyer, Sen, Hayes and Humpleman together taught the home terminal apparatus according to Claim 1, as described above. Moyer and Sen further teaches -- **the connection request from the protocol determination unit to the server to establish a session when a notification has been received indicating an occurrence of a control request, the receipt of the control data over the established connection using the second protocols in claim 33 the retrieval of the control request data in claim 5, the generation and sending of a notification packet by the server in claim 13 are all obvious combination of sending a SIP session invitation or notification, setup of a standard TCP session and application data exchange over a SIP session.**

Regarding claim 4, 6, 7, 19 & 20, Moyer, Sen, Hayes and Humpleman together taught the home terminal apparatus according to Claims 1 & 13, as described above. Moyer further teaches -- **The management units to manage a validity certificate and to send it according to claim 4, the authentication units to authenticate a server according to claims 6, 1, 19 to authenticate the terminal apparatus according to claim 20 are obvious from the well-know SIP security concerns and standard SIP message integrity and access control method ("RFC2543", Paragraphs [0013] and [0022]).**

Regarding claim 8, Moyer, Sen, Hayes and Humpleman together taught the home terminal apparatus according to Claim 6, as described above. Moyer further teaches -- **It is obvious from SIP standard (paragraph [0013]) to destroy packets according to predetermined interval of claim 8, since SIP already forces to discard packets in server when a registration has been expired.**

Regarding claim 9, 10 & 21, Moyer, Sen, Hayes and Humpleman together taught the home terminal apparatus according to Claims 1 & 13, as described above. Moyer further teaches -- **the encryption unit and the channel encryption in claims 9, 21 are known and the use of SSL in claim 10 is obvious from (paragraph [0454-455]) since SSL is just another alternative method to encrypt links over networks.**

Regarding claim 11, Moyer, Sen, Hayes and Humpleman together taught the home terminal apparatus according to Claim 1, as described above. Moyer further teaches -- **the control unit of claim 11 is known as "appliance controller" (paragraph [0092]).**

Regarding claim 12, Moyer, Sen, Hayes and Humpleman together taught the home terminal apparatus according to Claim 11, as described above. Moyer further teaches -- **The plurality of apparatuses and apparatus control units connected to the home terminal apparatus in claim 12 is obvious (paragraph [0002]).**

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Regarding claims 14, 15, 16, 17, 18 & 33, Moyer, Sen, Hayes and Humpleman together taught the home terminal apparatus according to Claims 1 & 13, as described above. Moyer further teaches -- **The mobile terminal device being capable to send control requests, the second packet generation unit preparing and the second communication unit operable to send the notification packet of claims 14, 18 as well as the communication unit operable to send / receive the control data of claims 15, 16, 17, 33 are an obvious combination of the SIP event notification mechanism in (paragraph [0030]) and the "remote control" scenarios (paragraphs [0093-0101], Figs. 2-7).**

Regarding claim 18, Moyer, Sen, Hayes and Humpleman together taught the method of claim 13, as described above. Moyer further teaches -- **The additional features terminal information storage unit to store terminal address data, extraction unit to extract terminal address data and second packet generation unit to generate control requests including that extracted address information server apparatus in the server according to claim 18 are obvious (paragraphs [0093-0094], Fig. 5).**

Regarding claims 22, 23, 24 28, 33 & 39, Moyer, Sen, Hayes and Humpleman together taught the method of claim 13, as described above. Moyer further teaches – **The server connected to the external network including second packet generation and second communication units operable to generate and send a notification packet containing a server identifier as well as the home terminal apparatus**

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including storage, extraction and packet generation units operable to store and extract server identifier / address and / or to generate a connection request of claims 22, 23, 24, 33 39 the port number of claim 23, the application server URL of claim 24, are obvious from (paragraphs [0020] and [0099]) in connection with the state-of-art IP addressing standardized in the IETF Internet Protocol Suite.

Regarding claim 25, Moyer, Sen, Hayes and Humpleman together taught the method of claim 24, as described above. Moyer further teaches – **The address list notification server including a sending unit operable to send address list notification packets and the home server update unit operable to update the stored application server address data in claim 25 are obvious from the address and name resolution mechanisms (e.g., DNS) being part of the IETF Internet Protocol Suite as well as from SIP REDIRECT (paragraph [0018]).**

Regarding claim 26, Moyer, Sen, Hayes and Humpleman together taught the method of claim 1, as described above. Moyer further teaches – **The direct connection between router and external networks of claim 26 is known from scenarios in which a network is divided into more than one sub-domains, a typical application scenario for standard edge routers with NAT functionality.**

Response to Arguments

Applicant's argument with respect to claims 1, 4-27, 29, 33 and 38-39 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's arguments filed on 07/07/2008 have been fully considered but they are moot in view of the new ground(s) of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sulaiman Nooristany whose telephone number is (571) 270-1929. The examiner can normally be reached on M-F from 9 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu, can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is

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available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sulaiman Nooristany 09/26/2008

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2146